

WHAT WE CLAIM IS:

- 1 A slide door opening and closing device for vehicles, comprising:
a wire winding pulley provided at a step panel positioned at under part of a vehicle and driven by a motor;
a driven pulley;
a lower roller supporting member; and
a wire wound on said each pulley;
wherein the wire comprises two wires, one end of each wire being fixed to wire winding pulley having a rotation axis pointing in approximately horizontal direction, the other end of each wire is attached to the lower roller supporting member through a spring.
2. A slide door opening and closing device for vehicles according to claim 1, wherein the lower roller supporting member includes:
a bracket fixed to the slide door and rotatably supporting a lower roller;
a housing fixed to the bracket; and
an engaging member accommodated in the housing and fixed to the other end of each wire;
wherein one end of the spring contacts with the engaging member and the other end of the spring contacts with an inner wall of the housing.
3. A slide door opening and closing device for vehicles according to claim 2, wherein the housing is accommodated in a case fixed to the bracket.
4. A slide door opening and closing device for vehicles according to claim 1, wherein the driven pulley includes at least a front pulley, a rear pulley and an idle pulley provided between the front pulley and the rear pulley, the lower roller supporting member moves along a path including a straight line path and a curved line path, and the wire is separated from the idle pulley when the lower roller supporting member passes the curved line path.

5. A slide door opening and closing device for vehicles according to claim 2, wherein the driven pulley includes at least a front pulley, a rear pulley and an idle pulley provided between the front pulley and the rear pulley, the lower roller supporting member moves along a path including a straight line path and a curved line path, and the wire is separated from the idle pulley when the lower roller supporting member passes the curved line path.
6. A slide door opening and closing device for vehicles according to claim 1, wherein the wire is provided between the each pulley with straight line.
7. A slide door opening and closing device for vehicles according to claim 4, wherein the wire is provided between the each pulley with straight line.
8. A slide door opening and closing device for vehicles according to claim 5, wherein the wire is provided between the each pulley with straight line.
9. A slide door opening and closing device for vehicles according to claim 4, wherein the idle pulley is provided at the vicinity of the curved line path.
10. A slide door opening and closing device for vehicles according to claim 5, wherein the idle pulley is provided at the vicinity of the curved line path.
11. A slide door opening and closing device for vehicles according to claim 9, wherein the idle pulley contacts with two wires at the vehicle outer side.
12. A slide door opening and closing device for vehicles according to claim 10, wherein the idle pulley contacts with two wires at the vehicle outer side.